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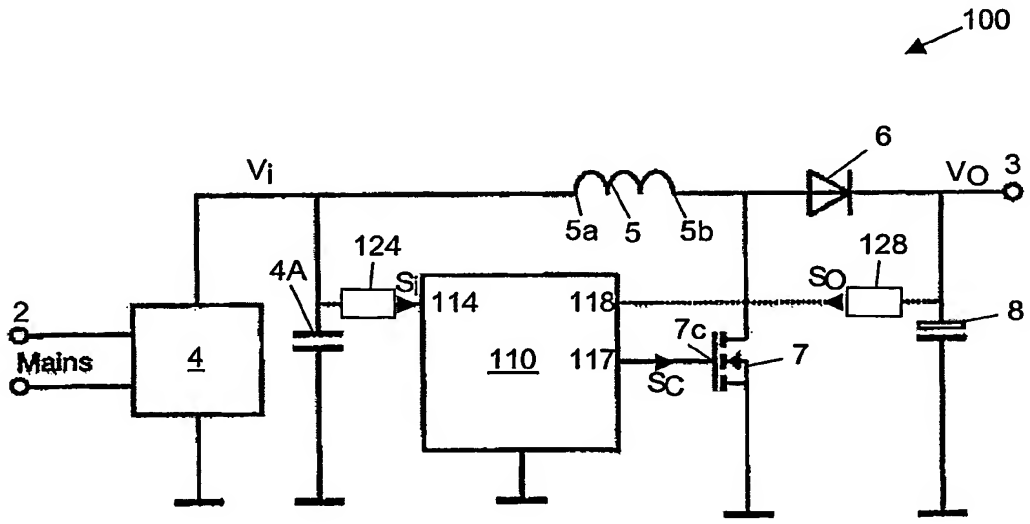
(54) Title: POWER CONVERTER WITH DIGITAL SIGNAL PROCESSOR



(57) Abstract: An up-converter (100) comprises: an inductor (5) and a diode (6) connected in series with an output (3); a capacitor (8) connected in parallel to said output; a controllable switch (7) having one switch terminal coupled to a node between the inductor and the diode. A control method comprises the steps of feeding the inductor with a rectified AC voltage (Vi); and generating a switch control signal (S_C) having a pulse width (T_H), for switching the switch open and closed; wherein the switch control signal is generated on the basis of the output voltage (Vo) at said output (3). According to the invention, the up-converter comprises a digital processor (110) which samples the output voltage (Vo), and digitally processes the sampled output voltage (Vo) to calculate the pulse width (TH) of the switch control signal (S_C) such that the output voltage (Vo) remains substantially constant.

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